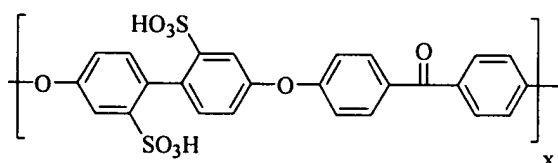
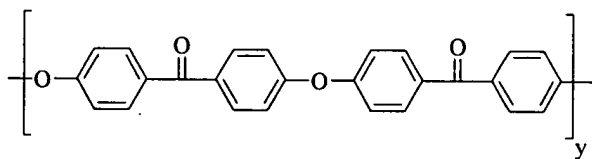


## ABSTRACT

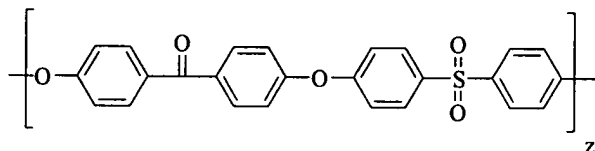
A membrane electrode assembly has two gas diffusion layers, two catalyst layers and an ion-exchange membrane interposed therebetween wherein the ion-exchange membrane is cast from a sulphonated polyether ketone/sulfone ionomer. Specifically, the ionomer can be represented as A-B-C wherein A is



B is



and C is



Further x, y, z represent the mole ratios of each moiety in the ionomer such that x is between 0.25 and 0.40; y is between 0.01 and 0.26; and z is between 0.40 and 0.67. Melt viscosity of the corresponding base polymer also affects performance in the fuel cell, particularly at values over  $0.4 \text{ kNsm}^{-2}$  as measured at  $400^\circ\text{C}$ ,  $1000 \text{ s}^{-1}$ . In preparing the membrane electrode assembly, the catalyst layers may be coated directly on the membrane and then bonded with two gas diffusion layers.